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PATENT & TRADEMARK OFFICE

PATENT
Attorney Docket No. 584642001200

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of:

Yijun YE

Serial No.: 10/685,263

Filing Date: October 14, 2003

For: SMOOTH CO-EXTRUDED POLYESTER FILM INCLUDING TALC AND METHOD FOR PREPARING SAME

Examiner: Vivian Chen

Group Art Unit: 1773

DECLARATION OF TRACY PAOLILLI UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

1. I graduated from the Community College of RI in May of 1984 with an associate's degree in Applied Science and from The University of Rhode Island in May of 2005 with a bachelor's degree in Chemistry.

I entered employment with Toray Plastics (America), Inc., the assignee of this application, in October of 2005 as Assistant Patent & Coating Development Specialist.

From 1987-1988, 1995-2005, I was employed by Soluol Inc., West Warwick, RI, as a Chemical Technologist, Research and Development.

2. I have read and am familiar with U.S. Application No. 10/685,263 the ('263 application). I have also read and am familiar with the Official Action of November 30, 2005, in the '263 application. Finally, I have read U.S. Patent 4,399,179 to Minami et al., US 2003/0157352 to Murschall et al., and U.S. 2004/0108754 to Murschall et al.

3. I and/or persons under my direct supervision and control have created the attached Table 1. Table 1 is a compilation of Examples 1-4, 6-9 and Reference Example 9,

which are described in the specification of this application.

4. In addition, table 1 also includes Comparative Example 5. Comparative Example 5 is a commercial film marketed under the name __FAR FDC_______. The film of Comparative Example 5 is a multilayer film with an A/B/A configuration. However, instead of using talc as in Examples 1-4, 6-9 and Reference Example 9, silica was used as the filler.

5. Table 1 shows that the haze % in Comparative Example 5, decreased by at least 6.7% compared to the films utilizing talc and the decrease in haze% was much greater when compared to most of the films utilizing talc. The clarity% of the film in Comparative Example 5 was at least 7.2% greater than the closest film utilizing talc and the increase in clarity% was much greater than this for most of the films utilizing talc. Finally the surface roughness SRA (nm) of Comparative Example 5 decreased by at least a third over the films utilizing talc when a drum was used and by at least half when no drum was used. The drum side vs. no drum side is indicative of the melt stream that comes in contact with the drum when the film is being extruded. Typically the side of the melt stream that comes into contact with the drum has a lower Sra value than the no drum side.

6. Accordingly, the use of talc as claimed markedly increased the haze and surface roughness of the films and markedly decreased the clarity of the films as compared to a film that utilize inorganic silica particles. The significant improvements to all three of these characteristics when talc is used in the films as claimed would have been totally unexpected at the time of this invention.

I declare under penalty of perjury that the foregoing is true and correct. Executed at North Kingstown, Rhode Island, this ___ day of April, 2006.

Application No. 10/685,263 Attorney Docket No. 584642001200

Tracy Paolilli Digitally signed by Tracy Paolilli
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Tracy Paolilli

Tracy A. Paolilli 5/26/06

Table 1

Test Conditions and Properties of Semigloss/Translucent PET Film

			Layer				Average 60° Gloss					
Example	Total		Thickness			Total						Sra
#	Thickness	Structure	(um)	Filler	Filler%	Filler %	Side A	Side B	Haze %	TLT %	Clarity	(nm)
1	92G (23 μm)	A/B/A	2/19/2	Talc1	3.0/2.0/3.0	2.17	37	50	66.2	83.7	21.2	170.7
2	92G (23 μm)	A/B/A	2/19/2	Talc2	3.0/2.0/3.0	2.17	66	66	62.2	79.2	44.0	165.4
3	92G (23 μm)	A/B/A	2/19/2	Talc3	3.0/2.0/3.0	2.17	39	62	53.0	86.5	40.2	166.7
4	92G (23 μm)	A/B/A	2/19/2	Talc4	3.0/2.0/3.0	2.17	39	55	62.0	85.1	29.0	217.2
Reference Example 5	48 G (12 μm)	Monolayer	12	Talc2	4.0	4.0	49	46	55.9	83.6	24.0	127.2
6	92 G (23 μm)	A/B	4/19	Talc3	3.0/0	0.52	128	97	17.9	88.3	85.0	76.6
7	92 G (23 μm)	A/B	4/19	Talc3	6.0/0	1.04	124	59	45.1	81.1	74.0	88.9
8	92 G (23 μm)	A/B/A	2/19/2	Talc1	3.0/2.0/3.0	2.17	39	57	57.7	85.8	25.9	147.0
9	200G (50 μm)	A/B/A	4/42/4	Talc1	3.0/2.0/3.0	1.74	68	86	82.2	67.3	35.7	108.8
Comparative Example 5	200G (50 μm)	A/B/A	4/42/4	Silica	.01/.19/.01	0.2	132.5	135	11.5	89.7	92.2	38-No Drum 28-Drum